Food and Agriculture Organization of the United Nations

COUNTRY & ORGANIZATION-LED INITIATIVE

COLi

GLOBAL WEBINAR SERIES 2025

Sustainable Forest-based Bioeconomy Approaches

SUMMARY OF FINDINGS

JANUARY 2026

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Background and purpose

Forests and forest-based products[1] sit at the heart of a nature-positive, global transition to a low-carbon economy. Around the world, countries are turning to forest-based bioeconomy approaches to address the intertwined challenges of climate-change mitigation, biodiversity conservation, rural development, food security, and the transformation of material and energy systems.

Under the Country and Organization-Led Initiative on Sustainable Forest-based Bioeconomy Approaches (COLI), the Food and Agriculture Organization of the United Nations (FAO) convened the Global Webinar Series to support knowledge exchange, strengthen cooperation among countries, and inform policy dialogue in the lead-up to the Global Summit on Advancing Sustainable Forest-based Bioeconomy Approaches, which will be held in Vienna, Austria, in February 2026. Combined, the six webinars, held between March and December 2025, brought together about 2 500 participants – policymakers, technical experts, private-sector leaders, researchers and community representatives – to discuss practical solutions across six key themes: (1) policy coherence; (2) investment and finance; (3) supply chains; (4) forest products beyond wood; (5) innovative wood-based construction; and (6) bioeconomy cooperation.

This brief distils the main insights derived from the Global Webinar Series. It identifies common challenges, emerging opportunities and priority actions that can help countries advance sustainable forest-based bioeconomy approaches that are climate-smart, socially inclusive and economically viable. Summary reports of each webinar are available on the FAO website.[2]

[1] Forests and forest-based products encompass goods (wood and non-wood); regulating services that affect climate, floods, disease, waste and water quality; cultural services that provide recreational, aesthetic and spiritual benefits; and supporting services such as soil formation, photosynthesis and nutrient cycling.

[2] See www.fao.org/forestry/our-focus/forest-products/sustainable-forest-based-bioeconomy-approaches/en.

Key messages and priority actions

- Scaling up sustainable forest-based bioeconomy approaches requires coherent policies, innovation and inclusive participation to translate strategies into local action.
  Priority action: Integrate bioeconomy approaches across sectors, tailored to local contexts and mainstreamed into international decision-making.
- Bridging the forest-finance gap demands increased bankability, innovative blended finance solutions, trust-based partnerships, and inclusive models.
  Priority action: Mobilize blended finance approaches, with a focus on patient capital, while ensuring strong social and environmental safeguards.
- Context-appropriate and inclusive innovations are essential for sustainably meeting the projected rise in forest product demand.
  Priority action: Integrate the expansion of sustainable forest supply, processing innovation, circular use, and inclusive market access across forest value chains.
- A sustainable forest-based bioeconomy extends beyond wood and should advance inclusive agrifood systems.
  Priority action: Increase inclusive investment and innovation in non-wood forest products while safeguarding against unintended harm, reducing poverty and strengthening social and economic resilience as well as inclusion.
- Sustainably sourced wood offers a triple win: cutting emissions, strengthening forest value chains, and enabling affordable low-carbon construction.
  Priority action: Promote sustainable wood construction through climate- and housing-aligned policies.
- Global cooperation is essential for unlocking the full potential of sustainable forest-based bioeconomy approaches.

  Priority action: Strengthen international cooperation and collaborative partnerships to enhance synergies across sectors and align policies on forestry, climate, industry and development.

11 March 2025

From policy to practice: scaling up sustainable forest-based bioeconomy approaches

Overview

Many countries are embedding forest-based strategies into broader climate, industrial and agricultural programmes and policies, but implementation is uneven. Progress is slowed by persistent fragmentation, overlapping mandates and insufficient data. Policy coherence – across ministries, sectors and governance levels – is foundational for translating policy ambitions into practice. National circumstances differ widely, requiring context-specific solutions rather than one-size-fits-all approaches.

Status snapshot

- Policy frameworks are expanding as new opportunities emerge to appropriately balance biodiversity, energy and industrial objectives.
- Sustainability criteria and monitoring systems require regular updating to bridge the policy–practice gap.
- Institutional silos persist, reducing efficiency and weakening interministerial coordination.
- Opportunities exist to fill forest data gaps and thereby facilitate effective decision-making and long-term planning for a sustainable forest-based bioeconomy.
- Differences between countries in their economic, social, environmental and cultural contexts mean that any transition to a sustainable forest-based bioeconomy will be uneven without strong international cooperation.

Considerations going forward

- Governments to establish interministerial bioeconomy platforms to harmonize policy objectives and improve coordination across forestry, climate, agriculture, trade and rural development.
- Regional bodies such as the European Union, the Association of Southeast Asian Nations, the African Union and Mercosur to support the harmonization of standards and certification systems.
- The private sector to align sustainability strategies with national policy frameworks and strengthen responsible sourcing and traceability.
- International organizations – such as FAO, the United Nations Forum on Forests and the Group of 20 – to facilitate global alignment on terminology, metrics and capacity development.
- Governments, the private sector and regional and international bodies to recognize Indigenous Peoples and local communities as equal partners in governance processes and to value and integrate their traditional knowledge in landscape management.

For a recording of the webinar and a summary report, see:
www.fao.org/forestry/sustainable-forest-based-bioeconomy-approaches/webinar-1/en

29 April 2025

Financing the future: unlocking investments for a thriving forest-based bioeconomy

Overview

Financing is one of the most significant necessary elements for scaling up sustainable forest-based bioeconomy approaches. Public finance is essential but insufficient on its own. Private capital will only flow, however, when governance is predictable, tenure rights are clear, long-term value is visible, and public funds are used strategically to de-risk investments, build trust and strengthen information systems. Scaling up investment also requires a strong pipeline of bankable and investable projects that can absorb the additional finance effectively.

Status snapshot

- Financing gaps persist, especially for restoration, local processing, and community-led and small and medium-sized enterprises.
- Governance conditions – especially clear and secure tenure rights and stability of rules – strongly influence investment decisions.
- Public finance plays an important catalytic role when used to de-risk sustainable investments.
- A range of financial instruments is emerging, although uptake and access vary.
- Trust and long-term partnerships are crucial for investor confidence.

Considerations going forward

- Governments and public agencies to ensure tenure security, align incentives, provide regulatory predictability and deploy public finance (e.g. through guarantees, concessional finance and project preparation) to reduce risk and attract private capital.
- Financial institutions and development finance actors to expand blended finance and tailor financial products to forest-based business models, including community and small-scale enterprises.
- Private investors and corporate actors to integrate forest-based opportunities into their climate, nature and environmental, social and governance – ESG – strategies with transparency and through long-term engagement and real-economy alignment.
- Indigenous Peoples, local communities, small and medium-sized enterprises and civil society, supported by technical partners, to strengthen financial literacy, enterprise readiness and sustained dialogue with investors and public agencies.

For a recording of the webinar and a summary report, see:
www.fao.org/forestry/our-focus/forest-products/sustainable-forest-based-bioeconomy-approaches/webinar-2/en

26 June 2025

From forest to market: advancing forest-based bioeconomy solutions to ensure resource supply meets growing demand

Overview

Growing global demand for wood and non-wood forest products (NWFPs) is creating new opportunities for sustainable value chains but also intensifying pressure on forest resources due to competing end uses. There is a need for stronger supply systems, improved processing efficiency, and faster innovation – from digital monitoring to circular production models. Supply-chain strategies must reflect ecological conditions, market structures and local capacities, paying particular attention to smallholders, women, Indigenous Peoples and youth-led enterprises.

Status snapshot

- Demand for fibre, engineered wood, bio-based materials and NWFPs is increasing rapidly.
- Innovation – technological, social, policy, institutional and financial – is a key driver of resilient forest-based value chains.
- Circularity practices (e.g. cascading use; design for disassembly; and recycling) offer major efficiency gains but are unevenly distributed among countries.
- National circumstances differ widely, shaping production potential, processing capacity, regional value chains and market access.
- Youth innovators are contributing new tools, business models and value-added products.

Considerations going forward

- Forest managers and policymakers to expand forest supply through sustainable management, restoration, plantations and agroforestry adapted to local contexts.
- Forest managers and processing firms to deploy digital tools and processing innovations that improve transparency, diversification, value addition and the use of underutilized species across value chains.
- The private sector and regulators to advance circular approaches that reduce waste, for example, through cascading use, recycling, closed technical and biological cycles and improved end-of-life strategies.
- Smallholders, cooperatives and Indigenous and local communities to strengthen market access through collective organization and processing upgrades, supported by development partners that reinforce innovation ecosystems, youth-led initiatives and regional knowledge exchange.

For a recording of the webinar and a summary report, see:
www.fao.org/forestry/our-focus/forest-products/sustainable-forest-based-bioeconomy-approaches/webinar-3/en

30 September 2025

Accelerating inclusive agrifood systems: the sustainable use of forest products beyond wood

Overview

Forests provide diverse goods and services that support agrifood systems, livelihoods and emerging bio-based industries. Many people – especially Indigenous Peoples, women and smallholders – depend on NWFPs for food, income and cultural value. There is a need for sustainable harvesting, fair benefit-sharing, greater market access, and the better integration of NWFPs into national agrifood and bioeconomy strategies. Innovation in processing, product development and value-chain organization offers growing opportunities, supported by inclusive governance and enabling policies.

Status snapshot

- Forest products beyond wood contribute to food security, nutrition, income and rural resilience.
- Many NWFP value chains are informal, with limited access to finance, technology and stable markets.
- Women, youth and Indigenous Peoples play central roles in NWFP value chains but face barriers in decision-making and benefit-sharing.
- Innovations in biochemicals, medicines, natural fibres, cosmetics and food products are expanding uses, but uptake is uneven across regions.
- Forest-based tourism and ecosystem services offer additional livelihood opportunities.

Considerations going forward

- Governments to integrate NWFPs into agrifood and rural strategies with sustainable management and fair benefit-sharing.
- Research institutions, technology providers and private-sector firms to strengthen processing technologies, standards, responsible sourcing, value addition and partnerships with community enterprises.
- Indigenous Peoples, local communities, women, cooperatives and community enterprises to scale up sustainable models through secure tenure, collective organization and improved access to markets and finance.
- Tourism operators, conservation organizations and ecosystem-service programme managers to generate diverse jobs and provide other forms of income through conservation-linked activities and payment schemes.

For a recording of the webinar and a summary report, see:
www.fao.org/forestry/our-focus/forest-products/sustainable-forest-based-bioeconomy-approaches/webinar-4/en

20 October 2025

Building the future: innovative wood solutions for carbon neutrality and a sustainable bioeconomy

Overview

Sustainably sourced wood has significant potential for reducing greenhouse-gas emissions in the construction sector by substituting carbon-intensive materials, supporting the circular use of resources, and strengthening responsible forest value chains. Sustainably managed forests, efficient processing, advanced engineered wood products and supportive policies can create a “triple win” by reducing emissions, strengthening forest value chains, and expanding affordable low-carbon housing options. There is a need for clear sustainability criteria, reliable carbon accounting, responsible sourcing, and integrated planning across the forestry, construction, housing and climate policy domains.

Status snapshot

- The construction sector is a major greenhouse-gas emitter, with substantial potential for emission reductions through the greater use of sustainable wood.
- Engineered wood products enable long-lived carbon storage and the use of diverse species with differing qualities, and they have many applications in urban development.
- Responsible sourcing and strong forest governance underpin climate and sustainability benefits.
- Innovation in design, processing, reuse and recycling expands opportunities and reduces waste.
- Integrated policies, market standards, adequate finance and strong public awareness are essential for scaling up wood construction.

Considerations going forward

- Governments to align forestry, construction, housing and climate policies to support sustainable wood use, responsible sourcing and reliable carbon accounting.
- Research and innovation actors to advance engineered wood product technologies, circular design, appropriate building codes, improved processing efficiency, and reduced material waste.
- Private-sector actors and cities to integrate mass timber and other wood solutions into building models and urban planning while strengthening supply-chain transparency.
- Forest managers, producer groups and community actors to increase sustainable supply through new plantations, improved management, diversified species and efficient harvesting and processing.
- Development agencies to support capacity building, technology transfer, demonstration projects and broader understanding of wood's climate benefits across building lifecycles.

For a recording of the webinar and a summary report, see:
www.fao.org/forestry/our-focus/forest-products/sustainable-forest-based-bioeconomy-approaches/webinar-5/en

10 December 2025

Bioeconomy cooperation: next steps to upscale forest-based bioeconomy approaches

Overview

Forest-based bioeconomy approaches can make strong contributions to climate-change mitigation and adaptation, circular resource use, technological innovation, and inclusive development. Bioeconomy can both strengthen existing sustainability trends and respond to emerging societal needs through innovative resource management, novel materials, and circular economy approaches. Realizing this potential requires global cooperation and effective governance mechanisms to counter increasing geopolitical fragmentation, alongside integrated policies that connect forestry, climate, industry and development objectives.

Status snapshot

- Global megatrends related to, for example, the environment, energy, technology and innovation, economy, demography and social health, and geopolitics demand innovative and effective global governance mechanisms, including the scaling up of forest-based bioeconomy approaches.
- In the face of rapid technological advances in biotechnology, artificial intelligence and materials science, responsible innovation demands robust risk assessment and standardization frameworks.
- Given that cities are responsible for 70 percent of global greenhouse-gas emissions and continue to grow, urban development requires sustainable construction solutions that increasingly involve bio-based materials.
- Geopolitical fragmentation and resource competition highlight the importance of international cooperation and effective governance mechanisms for scaling up bioeconomy solutions.

Considerations going forward

- Governments to strengthen international cooperation and align forestry, climate, industry and development policies to support scaled-up bioeconomy solutions.
- Research communities to deepen understanding of bioeconomy impacts, develop robust sustainability assessment methods, and expand frameworks to include biodiversity, social equity, and health dimensions.
- Policy actors to harmonize regulations, establish clear sustainability criteria and certification systems, and balance innovation with risk management for emerging biotechnologies.
- The private sector to develop business models that integrate sustainability with profitability, advance bio-based alternative materials, strengthen circular practices, and improve supply-chain transparency.
- Development agencies to support technology transfer, capacity building, demonstration projects, and equitable access to bioeconomy benefits for vulnerable populations.

For the webinar summary report, see:
https://www.fao.org/forestry/our-focus/forest-products/sustainable-forest-based-bioeconomy-approaches/webinar-6/en

Conclusion

Insights for advancing sustainable forest-based bioeconomy approaches

- Across six global webinars, a shared understanding emerged that forest-based bioeconomy approaches are central to achieving climate goals, supporting livelihoods, strengthening agrifood systems, and enabling low-carbon development. Momentum towards such approaches is growing worldwide, but persistent challenges in governance, financing and implementation are slowing progress.
- Policy coherence is fundamental. Many countries are integrating forest-based bioeconomy elements into climate, agricultural, industrial and rural development frameworks, but fragmentation and contradictory incentives are limiting impact. Clear governance arrangements, reliable data, predictable rules, and coordination across ministries and sectors are crucial for translating strategies into results.
- Mobilizing and directing more finance to the development of forest-based bioeconomy approaches is an urgent need. Public finance is essential but insufficient on its own, and private investment is limited, particularly for smallholders, small and medium-sized enterprises, Indigenous Peoples, and community enterprises. Blended finance, de-risking instruments, and longer-term partnerships are needed for building trust, unlocking patient capital and scaling up sustainable forest management, restoration, innovation and value-chain development.
- There is strong demand for innovation across forest product supply chains, including digital monitoring, advanced processing technologies, engineered wood products, and circular production systems. Technological and social innovations are expanding opportunities, but uneven uptake highlights the continued importance of enabling policies, capacity building and equitable participation.
- Inclusion is central to long-term sustainability. Indigenous Peoples, local communities, women and youth play key roles in forest stewardship, NWFP markets, enterprise development and innovation ecosystems. Ensuring meaningful participation, access to markets and finance, and fair benefit-sharing strengthens social outcomes and enhances resilience.

- International cooperation is increasingly important for advancing forest-based bioeconomy approaches. As technological change, urbanization and resource pressures accelerate, coordinated policies, shared sustainability standards, and knowledge exchange across countries and institutions are needed to support responsible innovation, manage emerging risks, and scale up bio-based solutions in ways that are resilient and inclusive.
- Together, the outcomes of the six webinars point to a clear path forward: policy coherence across sectors, responsible investment, resilient and diversified value chains, inclusive participation, sustained innovation, and global cooperation are essential for advancing a sustainable forest-based bioeconomy for the benefit of people, climate and nature.

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